

# TOSHIBA MOS MEMORY PRODUCTS

8192 WORD x 8 BIT CMOS RAM

SILICON GATE CMOS

TC5564P-15  
TC5564PL-15

## DESCRIPTION

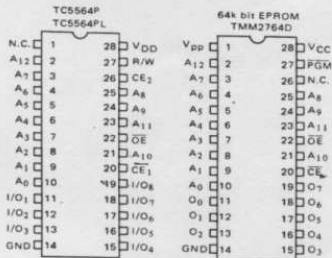
The TC5564P is a 65,536-bit high speed static random access memory organized as 8,192 words by 8 bits using CMOS technology, and operates from a single 5-volt supply.

The TC5564P features output enable and chip enable inputs, that is,  $\overline{OE}$  for fast memory access and  $\overline{CE}_1$ ,  $\overline{CE}_2$  for a minimum standby current mode. So it is suited for a high speed, and low power applications where battery operation and/or battery back up for nonvolatility are required. The TC5564P is guaranteed for voltage as low as 2.0 volt. Furthermore the TC5564PL is guaranteed a standby current equal

## FEATURES

- Low Standby Current
  - 0.2  $\mu$ A (Max.) at  $T_a = 25^\circ\text{C}$
  - 1.0  $\mu$ A (Max.) at  $T_a = 60^\circ\text{C}$
  - 20  $\mu$ A (Max.) at  $T_a = 85^\circ\text{C}$
- Low Power Dissipation
  - 27.5mW/MHz (Max.) Operating
- 5V Single Power Supply
- 8,192 Word x 8 Bit
- Fully Static Operation
- Data Retention Supply Voltage: 2.0 ~ 5.5V

## PIN CONNECTION (TOP VIEW)



## PIN NAMES

$A_0 \sim A_{12}$	Address Inputs
R/W	Read/Write Control Input
$\overline{OE}$	Output Enable Input
$\overline{CE}_1, \overline{CE}_2$	Chip Enable Inputs
$I/O_1 \sim I/O_8$	Data Input/Output
$V_{DD}$	Power (+5V)
GND	Ground
N.C.	No Connection

## PRELIMINARY

to or less than 1  $\mu$ A at  $T_a = 60^\circ\text{C}$  ambient temperature available.

The TC5564P also features pincompatibility with the 64K bit EPROM (TMM2764D). This means that the TC5564P and EPROM can be interchanged in the same socket, and flexibility in the definition of the quantity of RAM versus EPROM obtained as a result allows the wide application in microcomputer system.

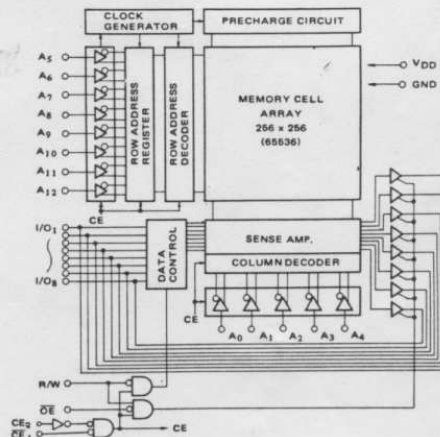
The TC5564P is moulded in a dual-in-line 28 pin standard plastic package, 0.6 inch width.

- Access Time

	TC5564P-15 TC5564PL-15
Address Access Time (Max.)	150 ns
$\overline{CE}_1$ Access Time (Max.)	150 ns
$\overline{CE}_2$ Access Time (Max.)	150 ns
Output Enable Time (Max.)	70 ns

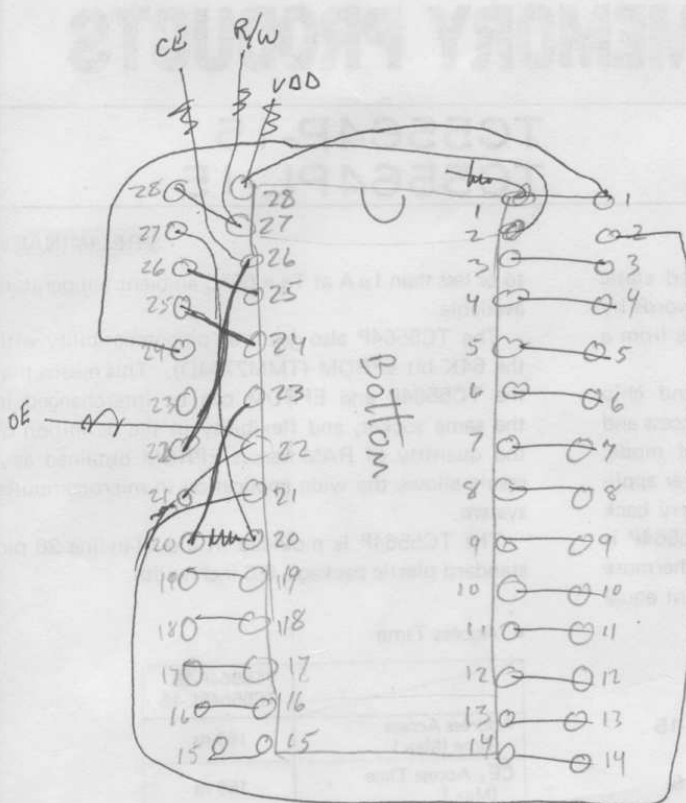
- Directly TTL Compatible:
  - All Inputs and Output
- Standard 28 Pin DIP
- Pin Compatible with 2764 type EPROM

## BLOCK DIAGRAM



*fold these pins under  
1, 2, 20, 22, 23, 27, 28*





8192 WORD x 8 BIT CMOS RAM

GLOBAL GATE DRIVE

DESCRIPTION

The TC5912 is a 8Kbit CMOS RAM with 8192 words x 8 bits. It is fabricated using 1.5µm CMOS technology and operates from a single 5V supply. The TC5912 features output enable and output disable inputs that allow for fast memory access and low power consumption. It is suitable for a wide range of applications, including data buffers, cache memory, and non-volatile memory. The TC5912 is available in a variety of packages and is guaranteed to operate at a minimum of 2.0V.

FEATURES

- Low Standby Current
- 0.2µA I<sub>max</sub> at T<sub>a</sub> = 25°C
- 1.0µA I<sub>max</sub> at T<sub>a</sub> = 60°C
- 20µA I<sub>max</sub> at T<sub>a</sub> = 85°C

- Low Power Dissipation
- 27.5mW/MBits (Max) Operating
- 2V Single Power Supply
- 8192 Word x 8 Bit
- Fully Static Operation
- Data Retention Supply Voltage: 2.0 - 5.5V

PIN CONNECTION (TOP VIEW)



PIN NAMES

Pin No.	Pin Name	Function
1	Q0	Output
2	Q1	Output
3	Q2	Output
4	Q3	Output
5	Q4	Output
6	Q5	Output
7	Q6	Output
8	Q7	Output
9	Q8	Output
10	Q9	Output
11	Q10	Output
12	Q11	Output
13	Q12	Output
14	Q13	Output
15	Q14	Output
16	Q15	Output
17	Q16	Output
18	Q17	Output
19	Q18	Output
20	Q19	Output
21	Q20	Output
22	Q21	Output
23	Q22	Output
24	Q23	Output
25	Q24	Output
26	Q25	Output
27	Q26	Output
28	Q27	Output
CE	Chip Enable	Active Low
R/W	Read/Write	Active Low
VDD	Power Supply	5V

Parameter	Typical Value
CE Access Time (t <sub>CE</sub> )	180 ns
Output Enable Time (t <sub>OE</sub> )	10 ns

- Diverts TTL Compatible
- All Inputs and Outputs
- Standard 28 Pin DIP
- Pin Compatible with 2814 and EPROM

BLOCK DIAGRAM



# A



<http://club100.org>

# Scan

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"It is better to have beer'd and fished, then  
to have never loved before"